ABSTRACT OF THE DISCLOSURE

There is provided a frame synchronization method using the correlation characteristic of a pilot pattern having a minimum side lobe coefficient when the chip rate of the physical channel of up-link or down-link is 3.8Mcps in a W-CDMA mobile communication system. The frame synchronization method using an optimal pilot pattern, including the steps of: receiving code sequences with the slot length of $(2l+1)$ for a radio frame according to an arbitrary chip rate; arranging the received code sequences corresponding to the slot length for the radio frame and performing auto correlation according to a reception location of the code sequences, and simultaneously, arranging the code sequences corresponding to the slot length for the radio frame and performing cross correlation according to a reception location of the code sequences; and observing the correlation results, to detect frame synchronization.